

SECRET

Chief, Supplemental Programs Division, OC

11 July 1956

Chief, Engineering Division, OC

Receiver for Project

RECEIVED

KNG 6-770

25X1

1. In accordance with verbal arrangements, the Research and Development Laboratory has packaged a transistorized, crystal-controlled receiver for operation in the 3 - 12 mcs frequency range. The completed receiver, a solar charger, and the equipment handbook are forwarded with this memorandum.

2. Basically, the receiver consists of the CV-1 transistorized converter, modified for the required frequency coverage, and packaged with the essential circuits of a Zenith Model RYL500 transistor receiver. The Zenith receiver was selected as the basic unit as a result of a comparative study of it, the Regency Model TR-1, General Electric Model C75, and the Raytheon Model STP.

3. Attention is called to the fact that the simplicity of the circuitry involved gives rise to objectionable spurious frequencies at certain points in the band. These frequencies are primarily a result of interaction between the two local oscillators. They are listed specifically in the operating instructions. It is also noted that the image frequency rejection ratio at the high end of the high band is only 10 db. However, the image rejection is at least 20 db throughout the remainder of the frequency range which is of the order of magnitude to be expected in the absence of RF stages.

4. The present circuitry can be refined to improve the selectivity and/or the image rejection ratio. However, within the limitations of present schedules, it appears that such improvement can be had only at the expense of operational simplicity and size. Thus, the unit is forwarded with the belief that an evaluation which weighs the noted shortcomings against specific operational objectives will prove to be the more effective way to establish requirements in regard to the need for further circuit refinement.

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ORIG CLASS	5	PASS	1	
JUST	22	NEXT DOW	2010	

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Attachments:

1. Receiver Unit (1)
 2. Solar Charger (1)
 3. Equipment Handbook (3)
- R&D/Lab/NCI/Attachments/JCT/rkb (11 July 1956)
- 4/13/57

Distribution:

- Original and
- | | |
|-----------------|--------------|
| 1 - Addressee | 1 - OC-E/MSB |
| 1 - R&D Lab ✓ | 1 - Dev/s |
| 1 - R&D Chrono | |
| 1 - OC-E Chrono | |
| 1 - R&D/EP | |
| 1 - OC-O&T/SB | |

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